

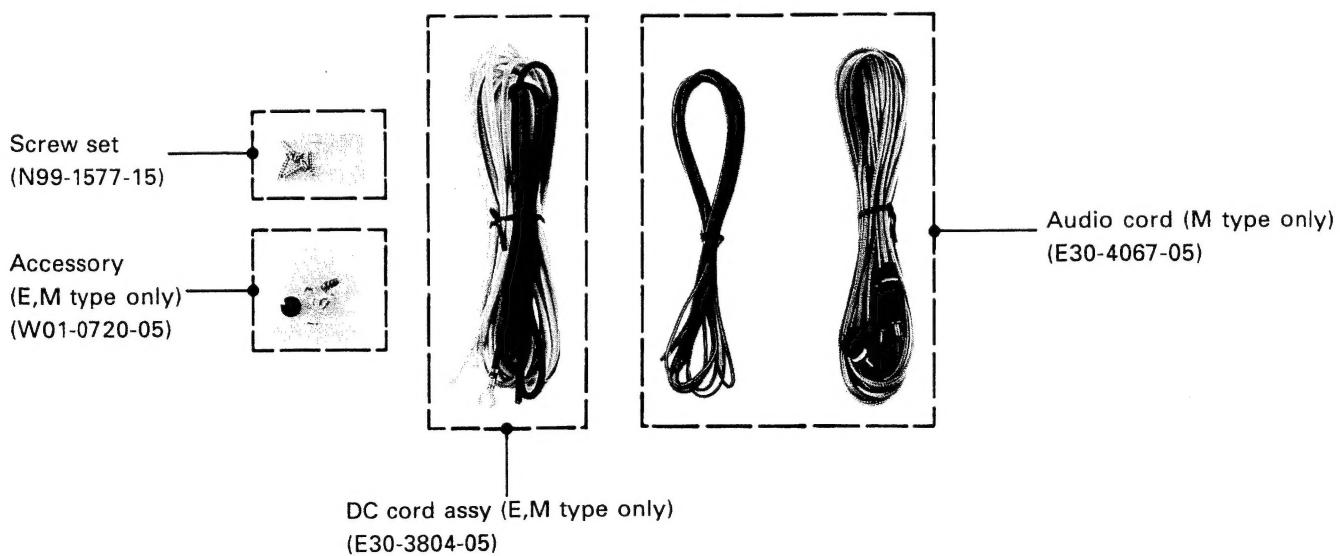
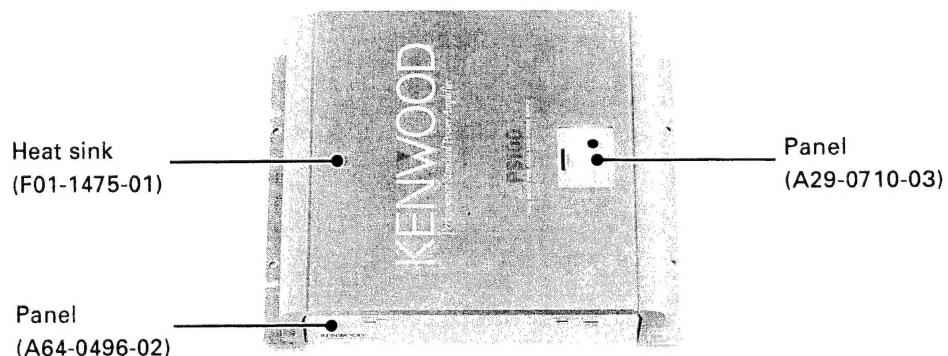
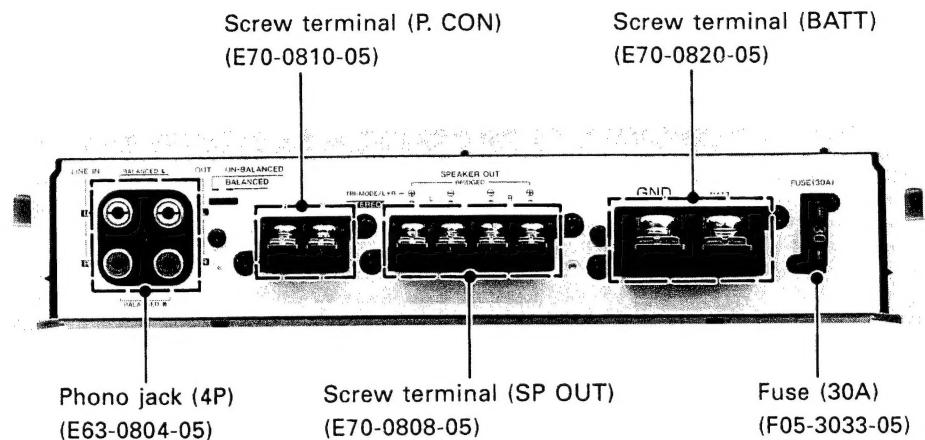
POWER AMPLIFIER

# KAC-PS100

## SERVICE MANUAL

KENWOOD

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B51-6837-00 (4) 3705

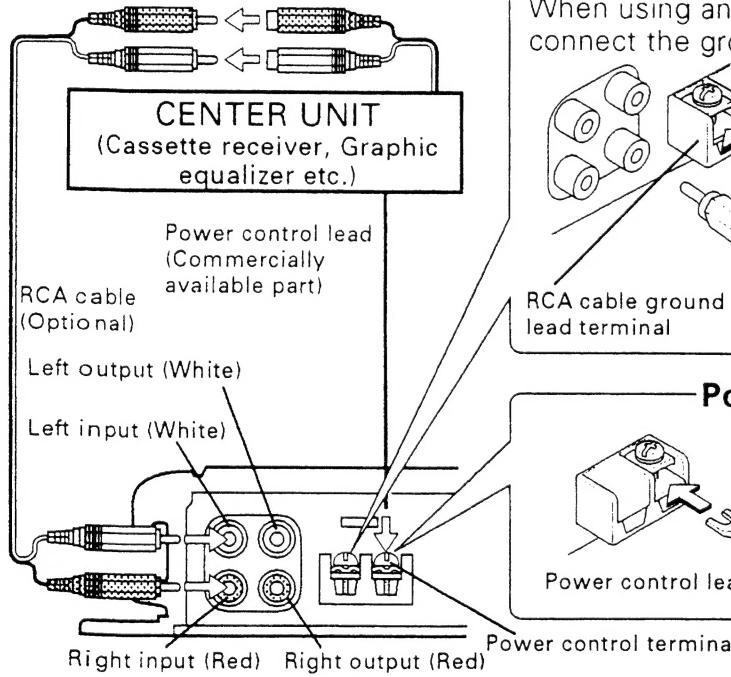


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## CONNECTIONS

### ■ System connection



#### RCA cable ground lead terminal

When using an RCA cable with a ground lead attached, connect the ground lead to this terminal.

#### CAUTION

Do not use this terminal for power source grounding. This unit will be damaged if the power source grounding wire is connected to this terminal.

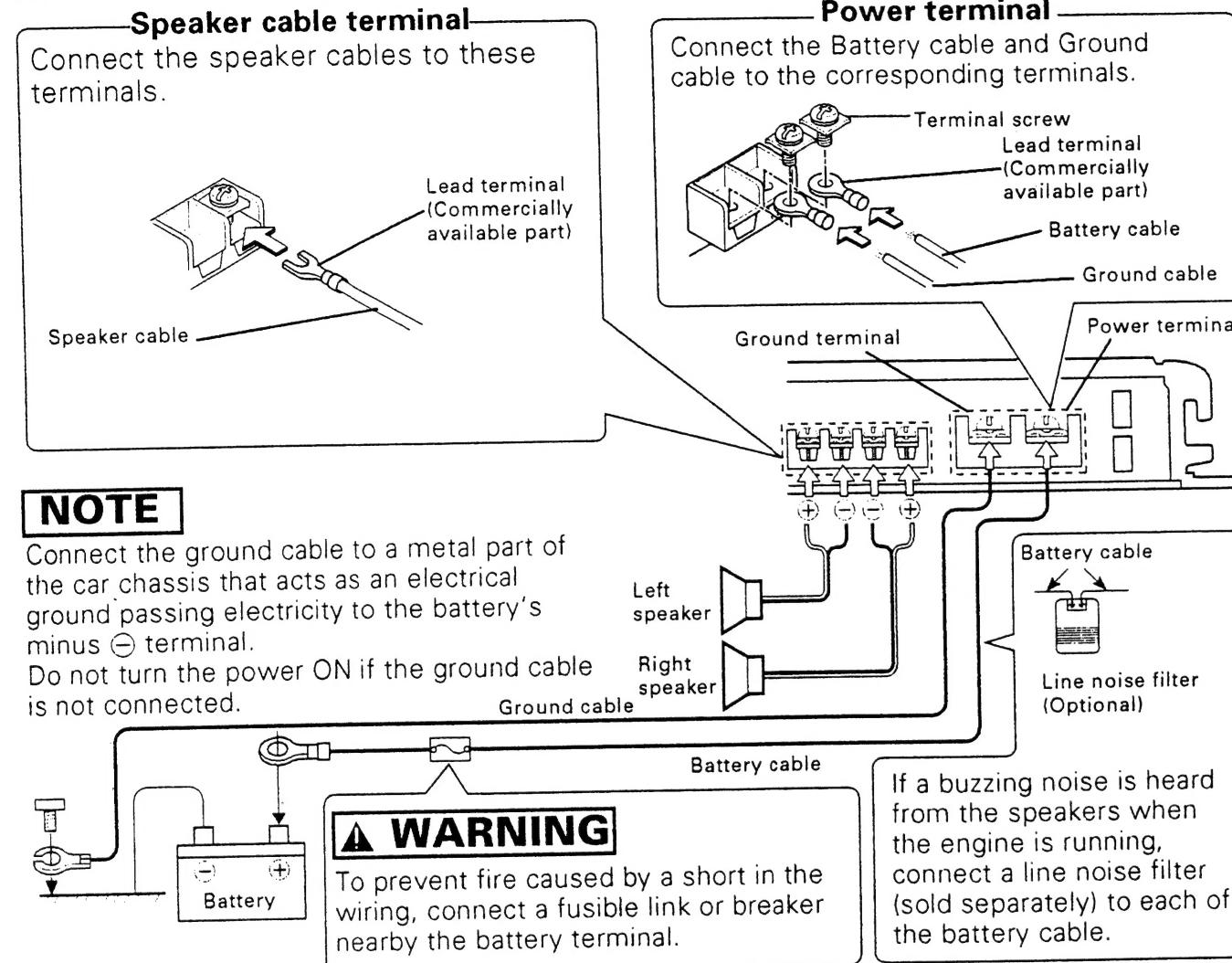
#### Power control lead terminal

Connect the Center unit's power control lead from the center unit.

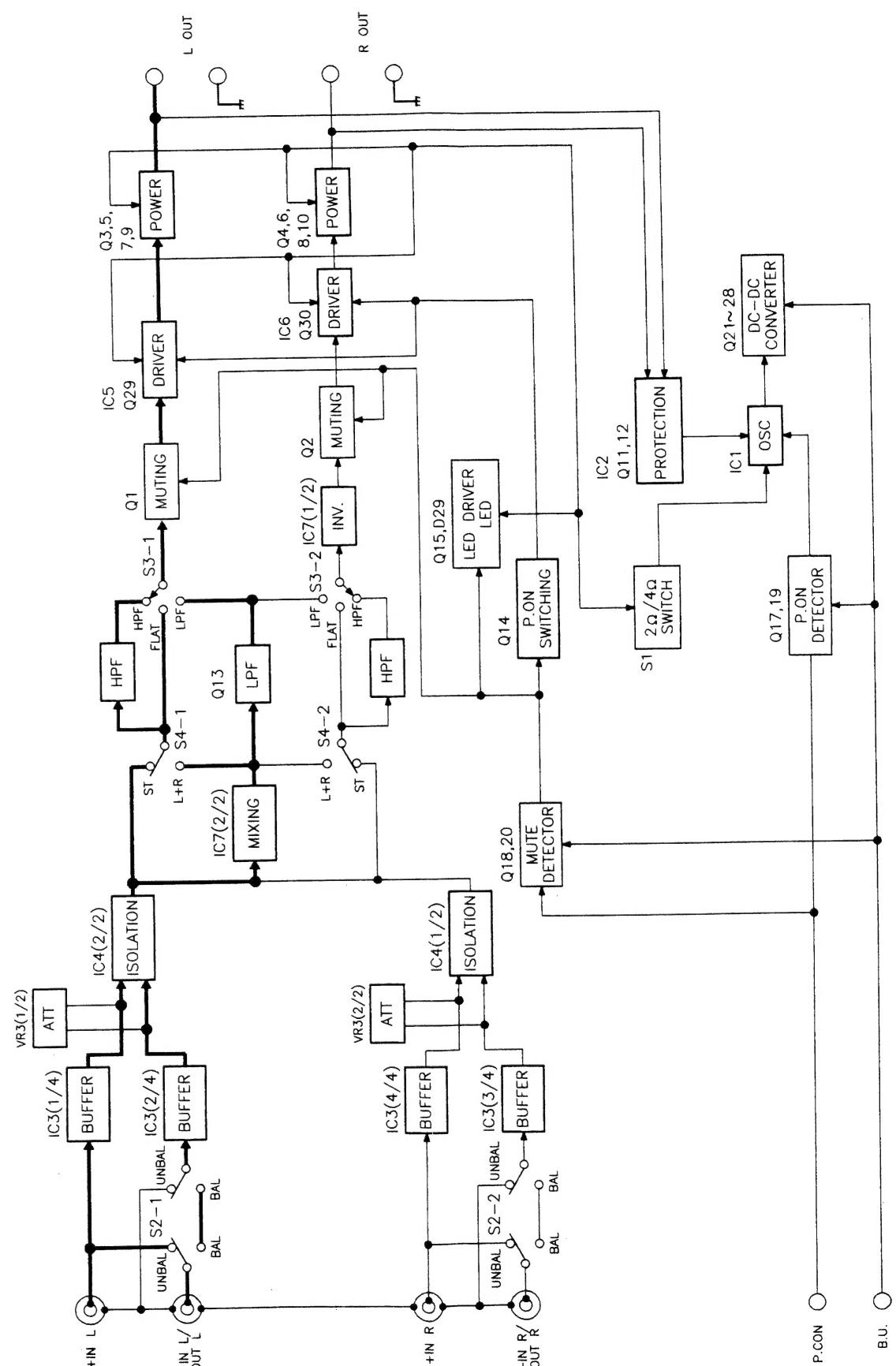
Lead terminal (Commercially available part)

## CONNECTIONS

## ■ Power and Speakers cable connection



## BLOCK DIAGRAM



KAC-PS100

# KAC-PS100

## CIRCUIT DESCRIPTION

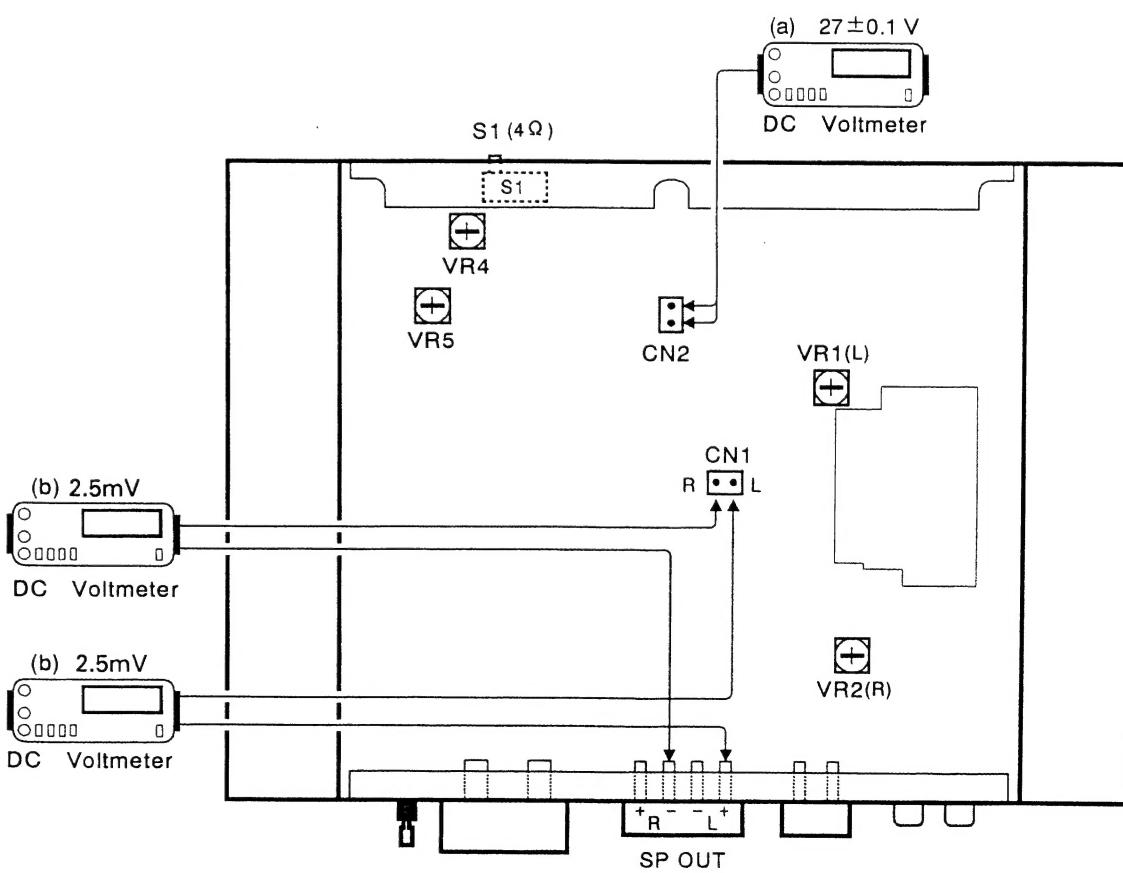
Component	Component Name	Application/Functions
IC1	μPC494C	DC-DC controller
IC2	NJM4565D	Temperature
IC3	μPC4574C	Buffer AMP
IC4	μPC4570C	Isolation AMP
IC5, 6	LM391N-100	Push-pull predriver
IC7	μPC4570C	Mixer & inverter AMP
Q1, 2	2SC945(A)(Q,P)	Muting
Q3, 4	2SC3939	Driver
Q5, 6	2SA1533	Driver
Q7, 8	2SC5100LB	Final-stage AMP
Q9, 10	2SA1908LB	Final-stage AMP
Q11, 12	2SC945(A)(Q,P)	Protection sensor
Q13	2SC945(A)(Q,P)	Low-pass filter
Q14	2SC945(A)(Q,P)	P-ON switching
Q15	2SC945(A)(Q,P)	LED driver
Q17	2SC945(A)(Q,P)	P-ON detection
Q18	2SC945(A)(Q,P)	Muting detection
Q19	2SA733(A)(Q,P)	P-ON switching
Q20	2SA733(A)(Q,P)	Muting driver
Q21, 24	2SC945(A)(Q,P)	DC-DC converter driver
Q22, 23	2SA733(A)(Q,P)	DC-DC converter driver
Q25- 28	MTAJ27N06ELFK	DC-DC converter final-stage switching
Q29, 30	2SC945(A)(Q)	Bias current temperature compensation
D1- 4	1SS176	Latch up prevention
D5, 6	1SS176	Muting distortion prevention
D7- 10	1SS131	Protection
D11, 12	1SS176	Switching
D13, 14	RD16JS(B)	Voltage stabilization
D15, 16	1SS176	DC-DC converter speed increase
D17	D8LC20U*A	+B rectifier
D18	D8LC20UR*A	-B rectifier
D19, 20	1SS176	Transistor reverse voltage protection
D21	1SS176	Reverse current prevention
D22	RM4AMLF-J1	Reverse contact prevention
D23- 25	1SS176	Reverse current prevention
D26	RD6.8JS(B)	P-CON ON voltage setting
D27	RD10JS(B)	Voltage stabilization
D28	1SS176	-B voltage charging
D29	B30-1450-05	LED indicator
D30	RD12JS(B2)	- voltage stabilization
D31	1SS131	Transistor protection

## ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE RECEIVER	ADJUSTMENT POINTS	ADJUSTMENT FOR	FIG.
1	SUPPLY VOLTAGE	—	Connect a DC voltmeter to CN2	VOLUME : 0	VR4 (S1 : 4Ω)	27±0.1V	(a)
2	IDLE CURRENT	—	Connect a DC voltmeter to CN1(L,R) and SP-OUT(L,R).	VOLUME : 0	VR1 (Lch) VR2 (Rch) (S1 : 4Ω)	2.5mV	(b)

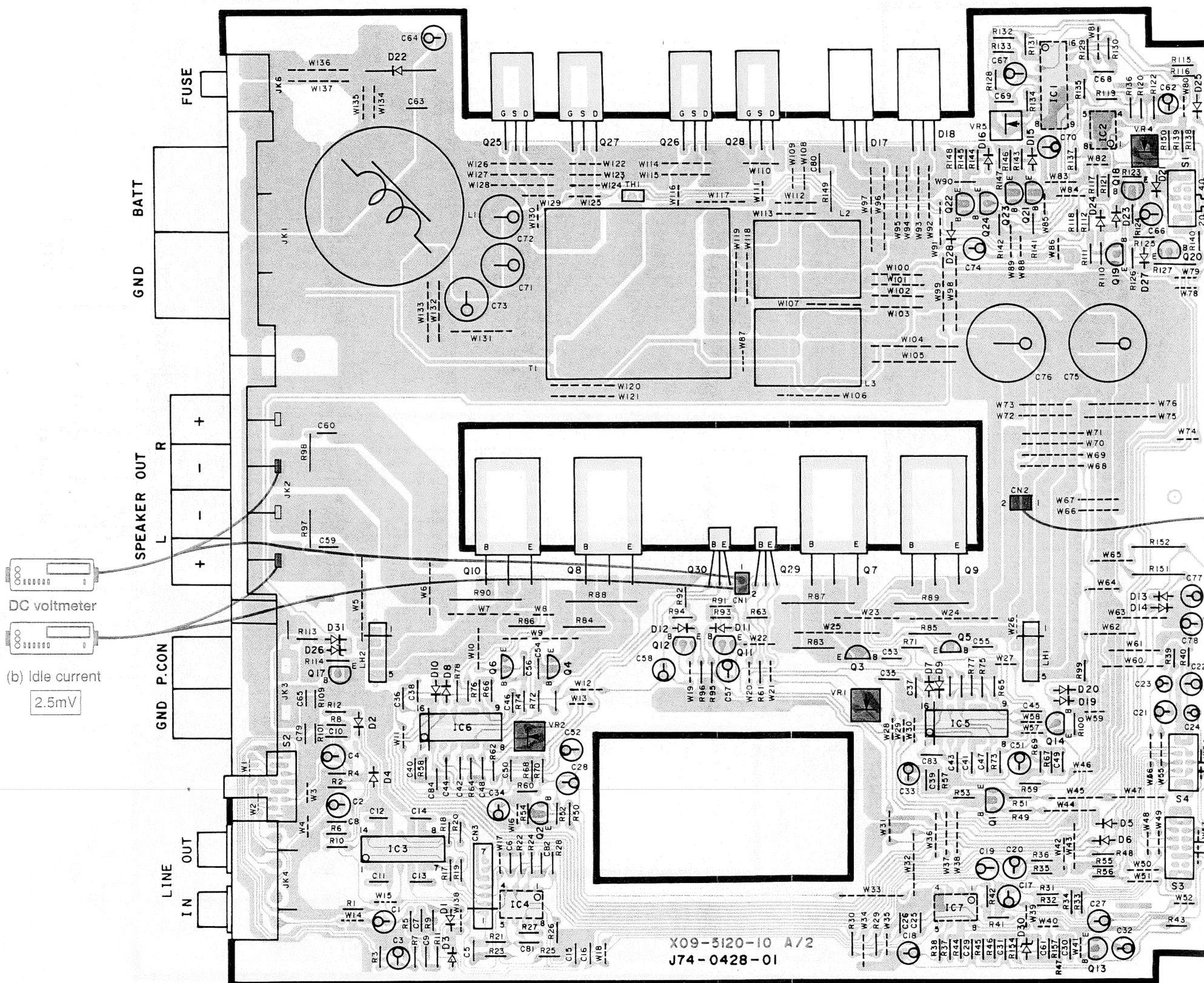
## ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANG-EINSTELLUNG	VORSTÄRKER-EINSTELLUNG	ABGLEICHE-PUNKTE	ABGLEICHEEN FÜR	ABB
1	SPANNUNG OHNE LAST	—	Gleichstrom-Voltmeter an CN2 anschließen.	VOLUME : 0	VR4 (S1 : 4Ω)	27±0.1V	(a)
2	LEERLAUF-STROM	—	Einen Gleichspannungsmesser zu CN1(L,R) und SP-OUT(L,R) anschließen.	VOLUME : 0	VR1 (Lch) VR2 (Rch) (S1 : 4Ω)	2.5mV	(b)



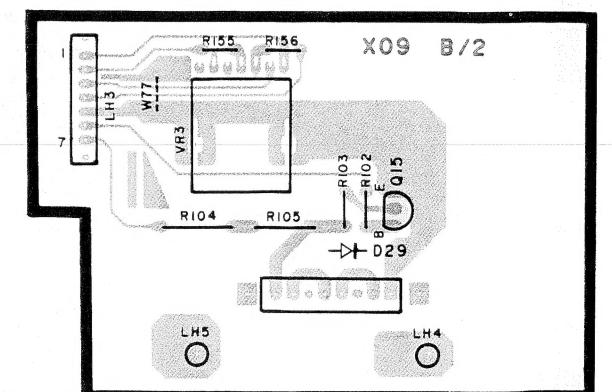
# PC BOARD (Component Side View)

AUDIO UNIT  
(X09-5120-10)



Ref. No.	Address
Q1	6G
Q2	6D
Q3	5F
Q4	5D
Q5	5F
Q6	5D
Q7	4F
Q8	4D
Q9	4F
Q10	4D
Q11	5E
Q12	5E
Q13	7G
Q14	5G
Q15	6I
Q17	5C
Q18	2G
Q19	3G
Q20	3H
Q21	2G
Q22	2F
Q23	2G
Q24	3G
Q25	2D
Q26	2E
Q27	2D
Q28	2E
Q29	4E
Q30	4E
IC1	2G
IC2	2G
IC3	6C
IC4	6D
IC5	5F
IC6	5D
IC7	6F

DC voltmeter  
(a) Supply voltage  
27±0.1V

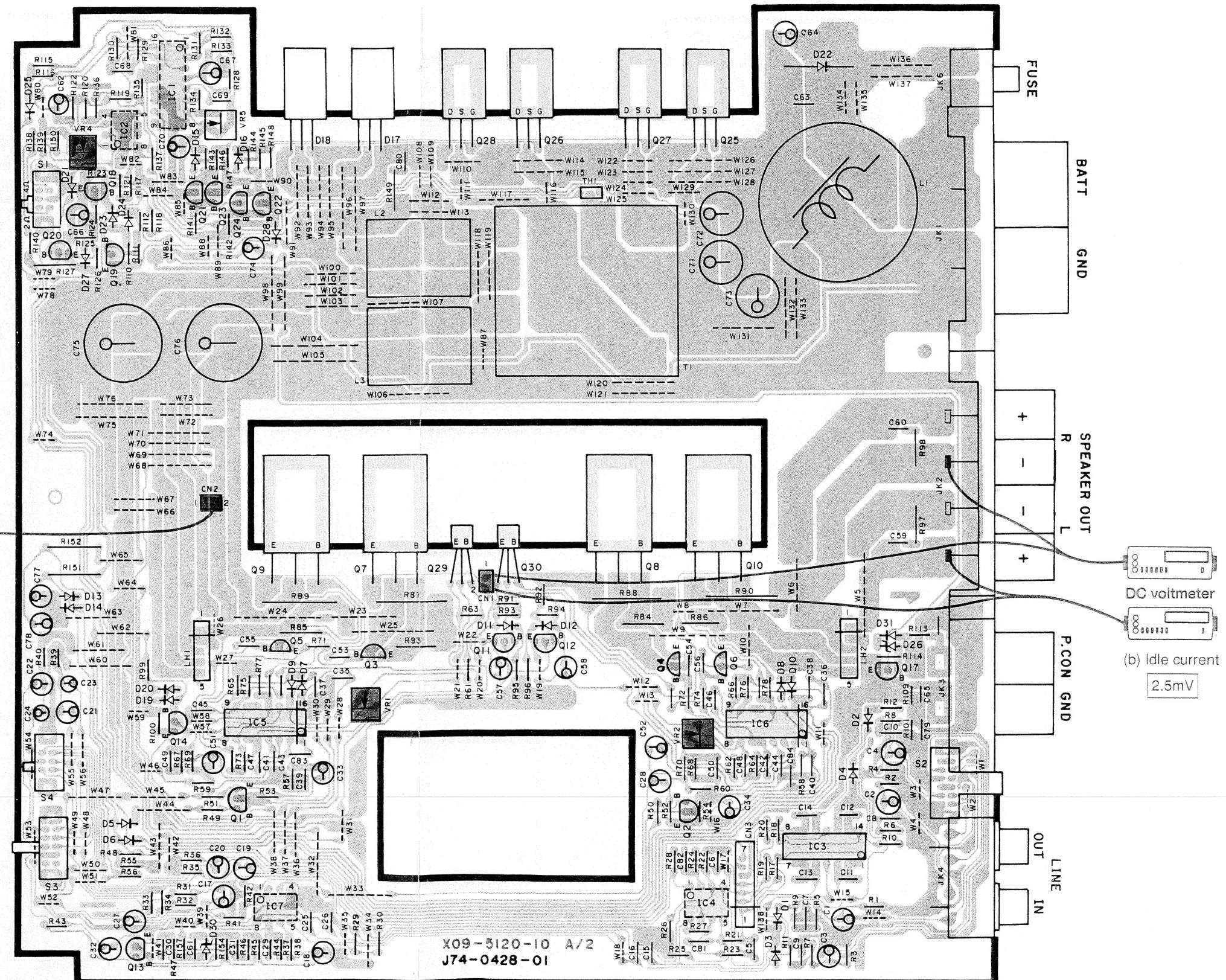


Refer to the schematic diagram for the values of resistors and capacitors.

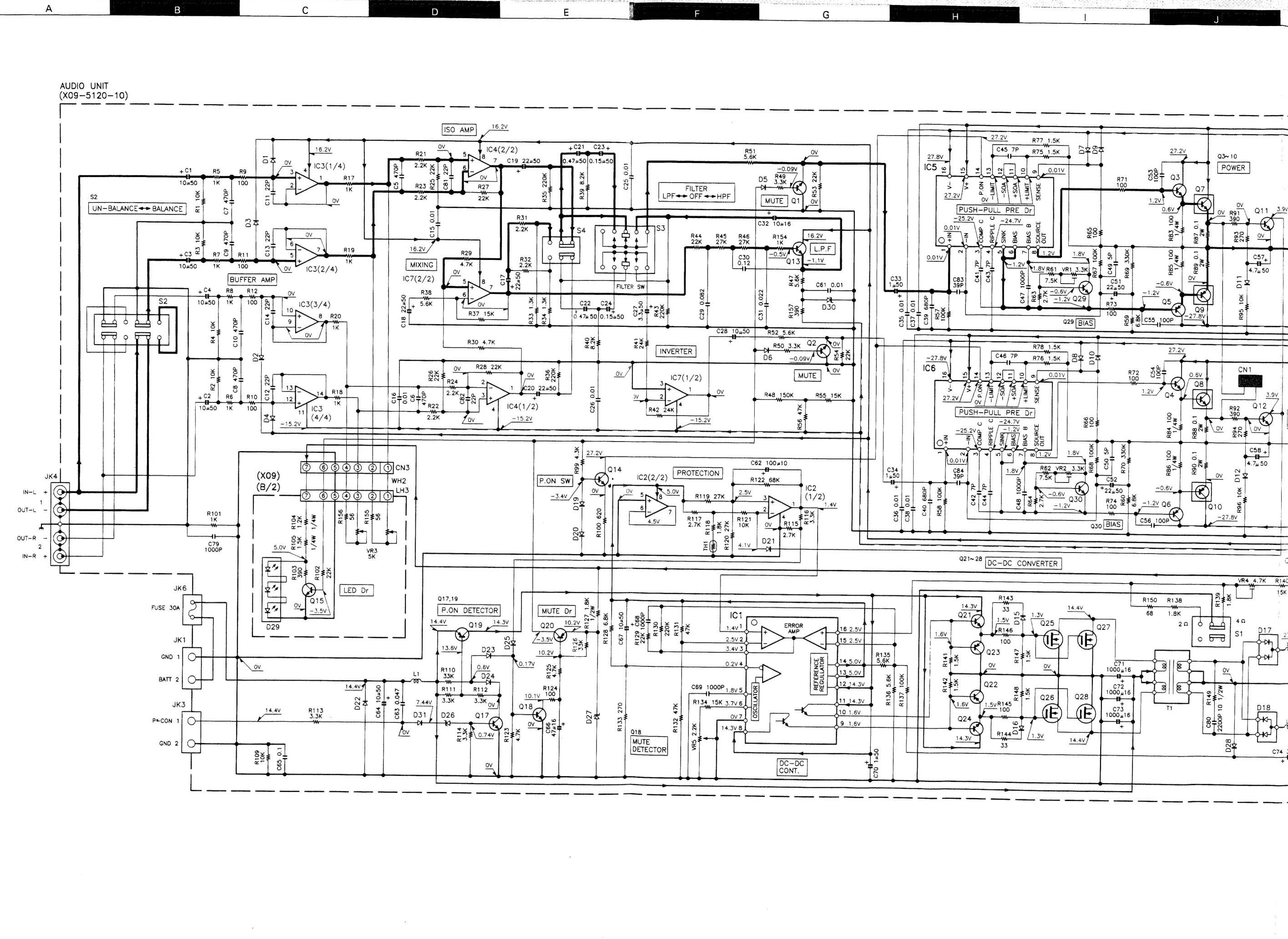
## PC BOARD (Foil Side View)

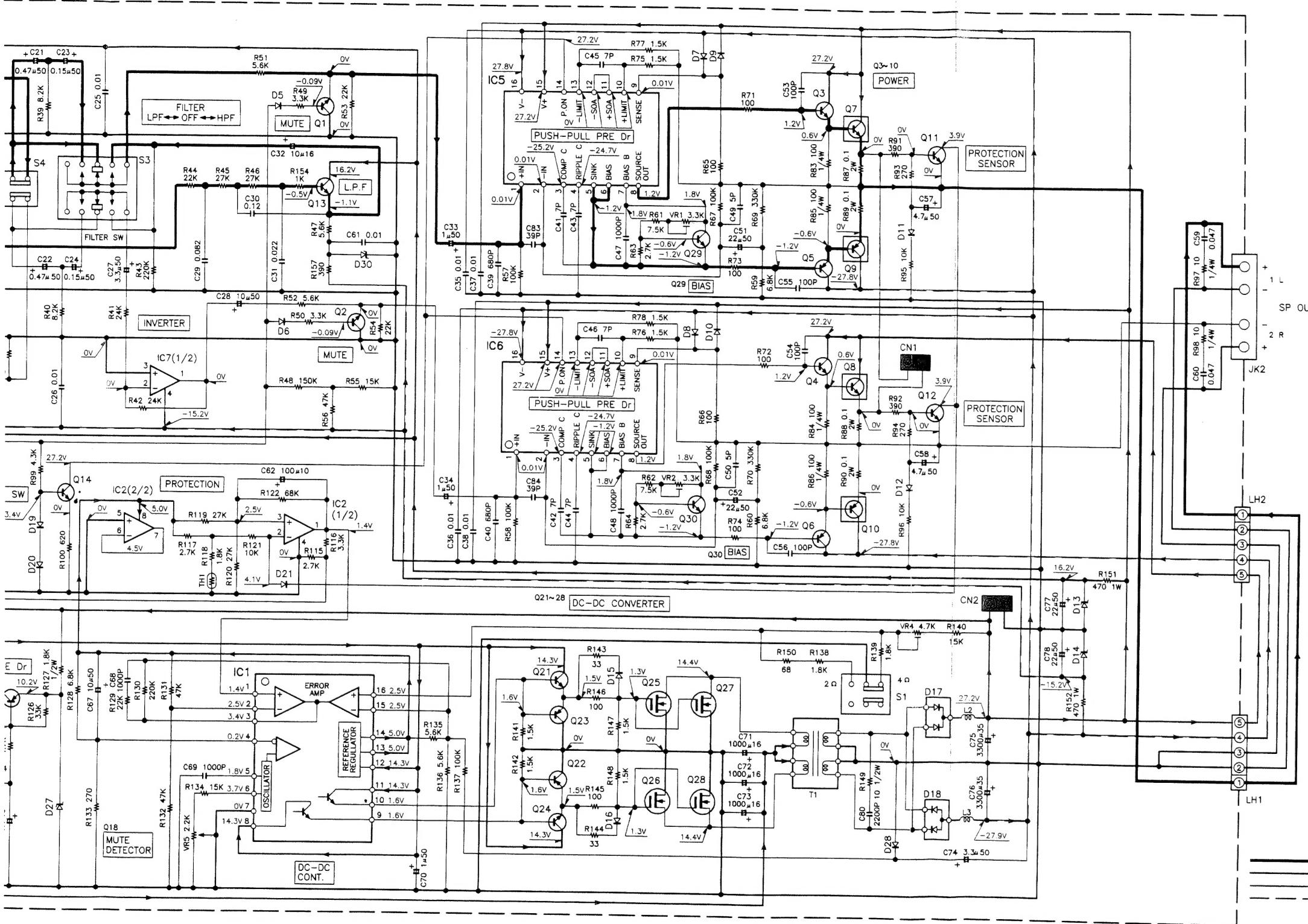
Ref. No.	Address
Q1	6N
Q2	6Q
Q3	5O
Q4	5Q
Q5	5O
Q6	5Q
Q7	4O
Q8	4Q
Q9	4O
Q10	4Q
Q11	5P
Q12	5P
Q13	7N
Q14	5N
Q15	6L
Q17	5R
Q18	2N
Q19	3N
Q20	3M
Q21	2N
Q22	2O
Q23	2N
Q24	3O
Q25	2Q
Q26	2P
Q27	2Q
Q28	2P
Q29	4P
Q30	4P
IC1	2N
IC2	2N
IC3	6R
IC4	6Q
IC5	5O
IC6	5R
IC7	6O

**AUDIO UNIT**  
**(X09-5120-10)**



Refer to the schematic diagram for the values of resistors and capacitors.



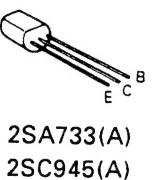


IC1  $\mu$ PC494C  
IC2 NJM4565D  
IC3  $\mu$ PC4574C  
IC4,7  $\mu$ PC4570C  
IC5,6 LM391N-100

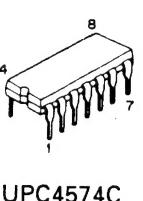
D1~6,11,12,15,16,19~21,23~25,28  
D7~10,31  
D13,14  
D17  
D18  
D22  
D26  
D27  
D29  
D30

Q1,2,11~15,17,18,21,24  
Q3,4  
Q5,6  
Q7,8  
Q9,10  
Q19,20,22,23  
Q25~28  
Q29,30

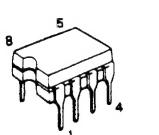
TH1 ERT-D2ZHL103S



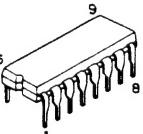
2SA733(A)  
2SC945(A)



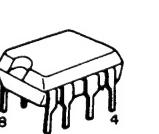
UPC4574C



NJM4565D



UPC494C



UPC4570C

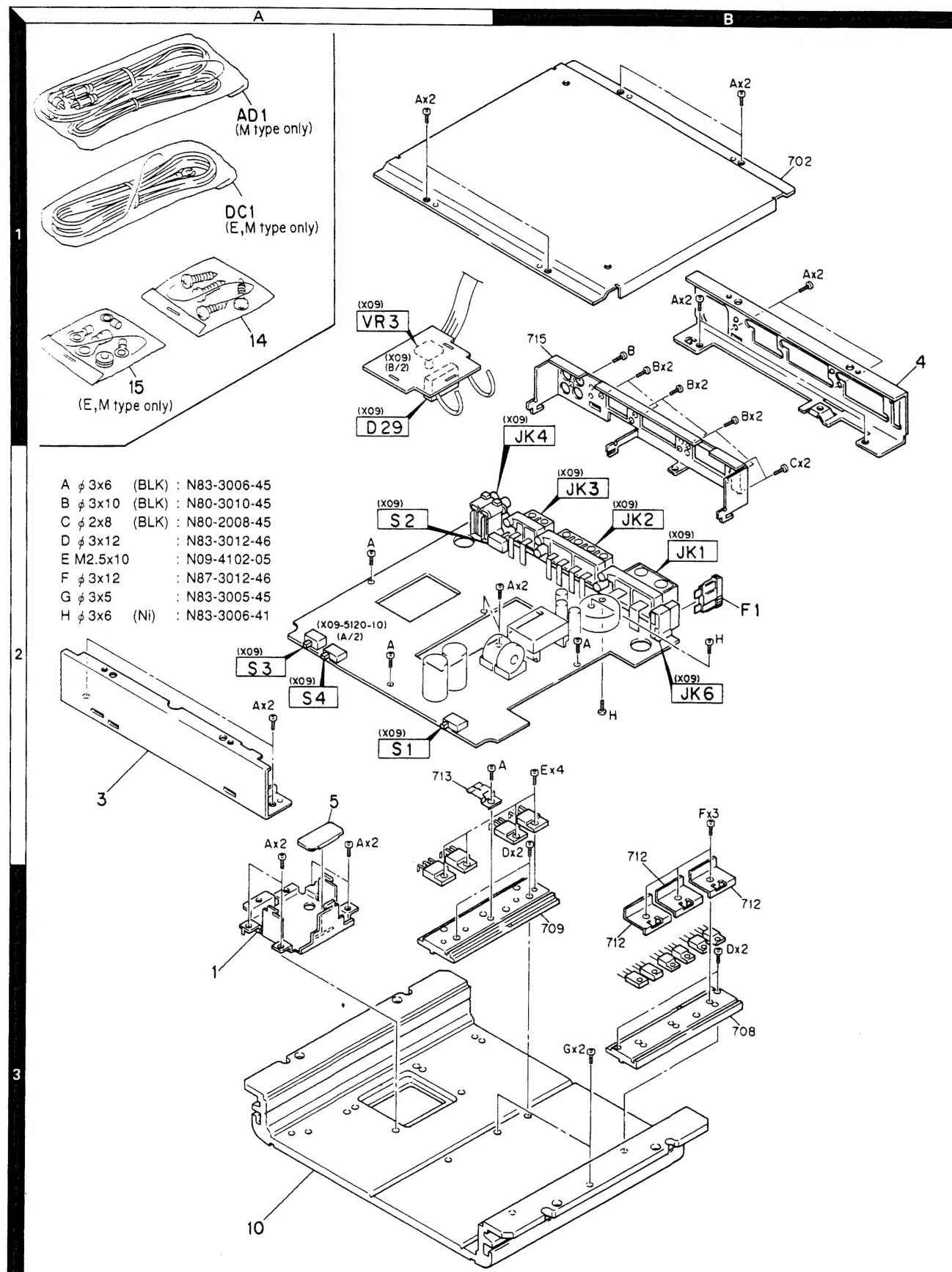
• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KAC-PS100  
KENWOOD

Y08-6090-10

## EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

## PARTS LIST

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規 格	Desti- nation 仕 向	Re- marks 備考
<b>KAC-PS100</b>						
1 3 4	3A 2A 1B	*	A29-0710-03 A64-0496-02 A84-0075-02	PANEL PANEL REAR PANEL		
5 - - -	2A		B19-1010-04 B46-0100-30 B64-0578-00 B64-0579-00 B64-0580-00	LIGHTING BOARD WARRANTY CARD INST. MANUAL (E, F, S) INST. MANUAL (E, F, G, D, I, S) INST. MANUAL (E, F, S)	K E M	
AD1 DC1	1A 1A	*	E30-4067-05 E30-3804-05	AUDIO CORD DC CORD ASSY	M EM	
10 F1	3A 2B	*	F01-1475-01 F05-3033-05	HEAT SINK FUSE (30A)		
- - - -		*	H12-2582-03 H12-2586-04 H25-0321-04 H25-0336-04 H54-0417-03	PACKING FIXTURE PACKING FIXTURE PROTECTION BAG (600X315X0.03) PROTECTION BAG (170X250X0.03) ITEM CARTON CASE		
- -		*	H64-0457-04	OUTER CARTON CASE		
14 A D E F	1A 1B 3B 2B 2B		N99-1577-15 N83-3006-45 N83-3012-46 N09-4102-05 N87-3012-46	SCREW SET PAN HEAD TAPITIE SCREW PAN HEAD TAPITIE SCREW SEMS (MACHINE SCREW) (M2.6X10) BRAZIER HEAD TAPITIE SCREW		
G H	3B 2B		N83-3005-45 N83-3006-41	PAN HEAD TAPITIE SCREW PAN HEAD TAPITIE SCREW		
15	1A		W01-0720-05	ACCESSORY	EM	
<b>AUDIO UNIT (X09-5120-10)</b>						
D29			B30-1450-05	LED(RED)		
C1 , -4			CE04DW1H100M	ELECTRO	10UF	50WV
C5 , -10			CK45FB1H471K	CERAMIC	470PF	K
C11 , -14			CC45FSL1H220J	CERAMIC	22PF	J
C15 , , 16			CF92FV1H103J	MF-C	0.010UF	J
C17 , -20			CE04DW1H220M	ELECTRO	22UF	50WV
C21 , , 22			CE04DW1H47M	ELECTRO	0.47UF	50WV
C23 , , 24			CE04CW1H15M	ELECTRO	0.15UF	50WV
C25 , , 26			CF92FV1H103J	MF-C	0.010UF	J
C27			CE04DW1H3R3M	ELECTRO	3.3UF	50WV
C28			CE04DW1H100M	ELECTRO	10UF	50WV
C29			CF92FV1H823J	MF-C	0.082UF	J
C30			CF92FV1H124J	MF-C	0.12UF	J
C31			CF92FV1H223J	MF-C	0.022UF	J
C32			CE04DW1H100M	ELECTRO	10UF	50WV
C33 , , 34			CE04DW1H010M	ELECTRO	1.0UF	50WV
C35 , -38			CF92FV1H103J	MF-C	0.010UF	J
C39 , , 40			CK45FB1H681K	CERAMIC	680PF	K
C41 , -46			CC45FSL1H070D	CERAMIC	7.0PF	D
C47 , , 48			CF92FV1H102J	MF-C	1000PF	J
C49 , , 50			CC45FCH1H050C	CERAMIC	5.0PF	C
C51 , , 52			CE04DW1H220M	ELECTRO	22UF	50WV

E: Europe W: Without Europe P: Canada X: Australia  
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

# KAC-PS100

## PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕向	Re- marks 備考
<b>KAC-PS100</b>						
1	3A	*	A29-0710-03	PANEL		
3	2A	*	A64-0496-02	PANEL		
4	1B	*	A84-0075-02	REAR PANEL		
5	2A		B19-1010-04 B46-0100-30 B64-0578-00 * B64-0579-00 * B64-0580-00	LIGHTING BOARD WARRANTY CARD INST. MANUAL (E,F,S) INST. MANUAL (E,F,G,D,I,S) INST. MANUAL (E,F,S)	K EM	
AD1	1A		E30-4067-05	AUDIO CORD	M	
DC1	1A		E30-3804-05	DC CORD ASSY	EM	
10	3A	*	F01-1475-01	HEAT SINK		
F1	2B		F05-3033-05	FUSE (30A)		
			H12-2582-03 H12-2586-04 H25-0321-04 H25-0336-04 * H54-0417-03	PACKING FIXTURE PACKING FIXTURE PROTECTION BAG (600X315X0.03) PROTECTION BAG (170X250X0.03) ITEM CARTON CASE		
			H64-0457-04	OUTER CARTON CASE		
14	1A		N99-1577-15	SCREW SET		
A	1B		N83-3006-45	PAN HEAD TAPPIE SCREW		
D	3B		N83-3012-46	PAN HEAD TAPPIE SCREW		
E	2B		N09-4102-05	SEMS (MACHINE SCREW) (M2.6X10)		
F	2B		N87-3012-46	BRAZIER HEAD TAPPIE SCREW		
G	3B		N83-3005-45	PAN HEAD TAPPIE SCREW		
H	2B		N83-3006-41	PAN HEAD TAPPIE SCREW		
15	1A		W01-0720-05	ACCESSORY	EM	
<b>AUDIO UNIT (X09-5120-10)</b>						
D29			B30-1450-05	LED(RED)		
C1 -4			CE04DW1H100M	ELECTRO	10UF 50WV	
C5 -10			CK45FB1H471K	CERAMIC	470PF K	
C11 -14			CC45FSL1H220J	CERAMIC	22PF J	
C15 ,16			CF92FV1H103J	MF-C	0.010UF J	
C17 -20			CE04DW1H220M	ELECTRO	22UF 50WV	
C21 ,22			CE04DW1HR47M	ELECTRO	0.47UF 50WV	
C23 ,24			CE04CW1HR15M	ELECTRO	0.15UF 50WV	
C25 ,26			CF92FV1H103J	MF-C	0.010UF J	
C27			CE04DW1H3R3M	ELECTRO	3.3UF 50WV	
C28			CE04DW1H100M	ELECTRO	10UF 50WV	
C29			CF92FV1H823J	MF-C	0.082UF J	
C30			CF92FV1H124J	MF-C	0.12UF J	
C31			CF92FV1H223J	MF-C	0.022UF J	
C32			CE04DW1H100M	ELECTRO	10UF 50WV	
C33 ,34			CE04DW1H010M	ELECTRO	1.0UF 50WV	
C35 -38			CF92FV1H103J	MF-C	0.010UF J	
C39 ,40			CK45FB1H681K	CERAMIC	680PF K	
C41 -46			CC45FSL1H070D	CERAMIC	7.0PF D	
C47 ,48			CF92FV1H102J	MF-C	1000PF J	
C49 ,50			CC45FCH1H050C	CERAMIC	5.0PF C	
C51 ,52			CE04DW1H220M	ELECTRO	22UF 50WV	

E: Europe W: Without Europe P: Canada X: Australia  
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

▲ indicates safety critical components.

# KAC-PS100

## PARTS LIST

\* New Parts

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Teile ohne Parts No. werden nicht geliefert.

AUDIO UNIT (X09-5120-10)

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕向	Re- marks 備考
C53 -56			CC45FSL1H101J	CERAMIC	100PF J	
C57 ,58			CE04DW1H4R7M	ELECTRO	4.7UF 50WV	
C59 ,60			CF92FV1H473J	MF-C	0.047UF J	
C61			CF92FV1H103J	MF-C	0.010UF J	
C62			CE04DW1A101M	ELECTRO	100UF 10WV	
C63			CF92FV1H473J	MF-C	0.047UF J	
C64			CE04DW1H100M	ELECTRO	10UF 50WV	
C65			CF92FV1H104J	MF-C	0.10UF J	
C66			CE04DW1C470M	ELECTRO	47UF 16WV	
C67			CE04DW1H100M	ELECTRO	10UF 50WV	
C68			CK45FB1H102K	CERAMIC	1000PF K	
C69			CF92FV1H102J	MF-C	1000PF J	
C70			CE04DW1H010M	ELECTRO	1.0UF 50WV	
C71 -73			C90-2660-05	ELECTRO	1000UF 16WV	
C74			CE04DW1H3R3M	ELECTRO	3.3UF 50WV	
C75 ,76		*	C90-2712-05	ELECTRO	3300UF 35WV	
C77 ,78		*	CE04DW1H220M	ELECTRO	22UF 50WV	
C79			CK45FB1H102K	CERAMIC	1000PF K	
C80			CF92FV1H222J	MF-C	2200PF J	
C81 ,82			CC45FSL1H220J	CERAMIC	22PF J	
C83 ,84			CC45FSL1H390J	CERAMIC	39PF J	
CN1 ,2			E40-3640-05	PIN ASSY		
CN3			E40-9125-05	FLAT CABLE CONNECTOR		
JK1			E70-0820-05	SCREW TERMINAL (BATT)		
JK2			E70-0808-05	SCREW TERMINAL (SP OUT)		
JK3			E70-0810-05	SCREW TERMINAL (P.CON)		
JK4			E63-0804-05	PHONE JACK (4P)		
WH2			E31-0804-05	LEAD WIRE		
JK6			J13-0602-05	FUSE HOLDER		
L1			L33-1015-05	CHOKE COIL		
L2 ,3		*	L33-1033-05	CHOKE COIL		
T1		*	L19-0546-05	TRANSFORMER FOR CONVERTER		
B			N80-3010-45	PAN HEAD TAPPIE SCREW		
C	1B		N80-2008-45	PAN HEAD TAPPIE SCREW		
R87 -90			R92-2115-05	METAL FILMR 1 J 2W		
R127			RD14DB2H182J	SMALL-RD 1.8K J 1/2W		
R149			RD14DB2H100J	SMALL-RD 10 J 1/2W		
R151,152			RS14KB3A471J	FL-PROOF RS 470 J 1W		
VR1 ,2			R12-1618-05	TRIMMING POT. (3.3K)		
VR3			R10-2622-05	POTENTIOMETER(5K)		
VR4			R12-1619-05	TRIMMING POT.(4.7K)		
VR5			R12-1617-05	TRIMMING POT.(2.2K)		
S1			S62-0842-05	SLIDE SWITCH		
S2			S62-0841-05	SLIDE SWITCH		
S3			S31-2630-05	SLIDE SWITCH		
S4			S62-0842-05	SLIDE SWITCH		
D1 -6			1SS176	DIODE		
D7 -10			1SS131	DIODE		
D11 ,12			1SS176	DIODE		
D13 ,14			RD16JS(B)	ZENER DIODE		
D15 ,16			1SS176	DIODE		

E: Europe W: Without Europe P: Canada X: Australia  
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

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AUDIO UNIT (X09-5120-10)

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕向	Re- marks 備考
D17			D8LC20U*A	DIODE		
D18			D8LC20UR*A	DIODE		
D19 -21			1SS176	DIODE		
D22			RM4AMLF-J1	DIODE		
D23 -25			1SS176	DIODE		
D26			RD6.8JS(B)	ZENER DIODE		
D27			RD10JS(B)	ZENER DIODE		
D28			1SS176	DIODE		
D30			RD12JS(B2)	ZENER DIODE		
D31			1SS131	DIODE		
IC1			UPC494C	IC(SWITCHING REGULATOR)		
IC2			NJM4565D	IC(OP AMP X2)		
IC3			UPC4574C	IC(OP AMP X4)		
IC4			UPC4570C	IC(OP AMP X2)		
IC5 , 6			LM391N-100	ANALOGUE IC		
IC7			UPC4570C	IC(OP AMP X2)		
Q1 , 2			2SC945(A)(Q,P)	TRANSISTOR		
Q3 , 4			2SC3939	TRANSISTOR		
Q5 , 6			2SA1533	TRANSISTOR		
Q7 , 8	*		2SC5100LB	TRANSISTOR		
Q9 , 10	*		2SA1908LB	TRANSISTOR		
Q11 -15			2SC945(A)(Q,P)	TRANSISTOR		
Q17 , 18			2SC945(A)(Q,P)	TRANSISTOR		
Q19 , 20			2SA733(A)(Q,P)	TRANSISTOR		
Q21			2SC945(A)(Q,P)	TRANSISTOR		
Q22 , 23			2SA733(A)(Q,P)	TRANSISTOR		
Q24			2SC945(A)(Q,P)	TRANSISTOR		
Q25 -28			MTAJ27N06ELFK	FET		
Q29 , 30			2SC945(A)(Q)	TRANSISTOR		
TH1			ERT-D2ZHL103S	THERMISTOR		

E: Europe W: Without Europe P: Canada X: Australia  
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

# KAC-PS100

## SPECIFICATIONS

Specifications subject to change without notice.

### Audio Section

Max Power Output (4 Ω)

Normal .....	100 W × 2
Bridged .....	300 W × 1

Rated Power Output (4 Ω)

Normal (20 Hz ~ 20 kHz less than 0.05 % THD) .....	50 W × 2
Bridged (1 kHz less than 0.5 % THD) .....	150 W × 1

Rated Power Output (2 Ω)

Normal (1 kHz, less than 0.5 % THD) .....	75 W × 2
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Frequency Response (-3 dB) .....

Sensitivity (rated output) (MAX.) .....	0.3 V
(MIN.) .....	5.0 V

Signal to Noise Ratio .....

Input Impedance .....	10 kΩ
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Damping Factor (100 Hz) .....

Low Pass Filter Frequency .....	More than 100
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High Pass Filter Frequency .....

.....	80 Hz (18 dB/oct.)
.....	80 Hz (12 dB/oct.)

### General

Operating Voltage .....

12.0 V (11 ~ 16 V allowable)

Current Consumption (1 kHz, 10%) .....

22 A

Dimensions (W × H × D) .....

297 × 56 × 240 mm

(11-11/16 × 2-3/16 × 9-7/16 in.)

Weight .....

3.5 kg (7.7 lb)

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